

## PATENT ABSTRACTS OF JAPAN

(11)Publication number : 09-115354  
(43)Date of publication of application : 02.05.1997

---

(51)Int.CI. H01B 12/02  
C01G 1/00  
C01G 29/00  
C22C 5/10  
C22F 1/14  
H01B 13/00

---

(21)Application number : 07-272590 (71)Applicant : HITACHI CABLE LTD  
(22)Date of filing : 20.10.1995 (72)Inventor : SATO JUNICHI  
NOMURA KATSUMI  
NOMOTO AKIRA

---

**(54) OXIDE SUPERCONDUCTING COMPOSITE MATERIAL AND ITS MANUFACTURE**

**(57)Abstract:**

**PROBLEM TO BE SOLVED:** To provide a high strength oxide superconducting composite material in which metal material is simultaneously strengthened besides oxide superconducting material by heat treating the oxide superconducting material after machining the same which is not heat treated.

**SOLUTION:** Oxide superconducting composite material using metal material not conducted dispersion strengthening treatment in advance as coating material or base material is machined in such a state easy for machining in which 0.2% proof stress is about 20MPa or more, and breaking elongation is about 1% or more. The same is superconducting heat treated so that the metal material is simultaneously strengthened besides the oxide superconducting material. As the metal material silver base alloy containing one kind or more of Cd, Hf, Mg, Mn, Ni, Sn, Ti, Zr is used. As an oxide superconductor a Bi group composed of at least Bi, Sr, Ca, and Cu is used. As the composite material tape-like wire rods are used. The superconducting treatment is conducted at a temperature of 700 to 950° C and in an atmosphere of about 0.01 to 10atm of oxygen partial pressure.

---

**LEGAL STATUS**

[Date of request for examination] 21.01.2000  
[Date of sending the examiner's decision of rejection] 02.09.2003  
[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]  
[Date of final disposal for application]  
[Patent number]  
[Date of registration]  
[Number of appeal against examiner's decision of rejection] 2003-19221  
[Date of requesting appeal against examiner's decision of rejection] 02.10.2003  
[Date of extinction of right]

Copyright (C): 1998,2003 Japan Patent Office

(19)日本国特許庁 (J P)

(12) 公開特許公報 (A)

(11)特許出願公開番号

特開平9-115354

(43)公開日 平成9年(1997)5月2日

(51)Int.Cl. <sup>®</sup>	識別記号	序内整理番号	F I	技術表示箇所
H 01 B 12/02	Z A A		H 01 B 12/02	Z A A
C 01 G 1/00			C 01 G 1/00	S
29/00	Z A A		29/00	Z A A
C 22 C 5/10			C 22 C 5/10	Z
C 22 F 1/14			C 22 F 1/14	

審査請求 未請求 請求項の数13 O L (全4頁) 最終頁に続く

(21)出願番号	特願平7-272590	(71)出願人	000005120 日立電線株式会社 東京都千代田区丸の内二丁目1番2号
(22)出願日	平成7年(1995)10月20日	(72)発明者	佐藤 淳一 茨城県土浦市木田余町3550番地 日立電線 株式会社アドバンスリサーチセンサ内
		(72)発明者	野村 克己 茨城県土浦市木田余町3550番地 日立電線 株式会社アドバンスリサーチセンサ内
		(72)発明者	野本 明 茨城県土浦市木田余町3550番地 日立電線 株式会社アドバンスリサーチセンサ内
		(74)代理人	弁理士 松本 孝

(54)【発明の名称】 酸化物超電導複合材及びその製造方法

(57)【要約】

【課題】加工が容易で、しかも安価な高強度酸化物超電導複合材を提供することにある。

【解決手段】予め強化処理が施されていない金属材を被覆材あるいは基材とした酸化物超電導複合材を0.2%耐力、破断伸びがそれぞれ20MPa以上、1%以上の状態、すなわち加工が容易な状態で加工を行い、その後の超電導化熱処理の際に同時に酸化物超電導材以外の金属材を強化する。